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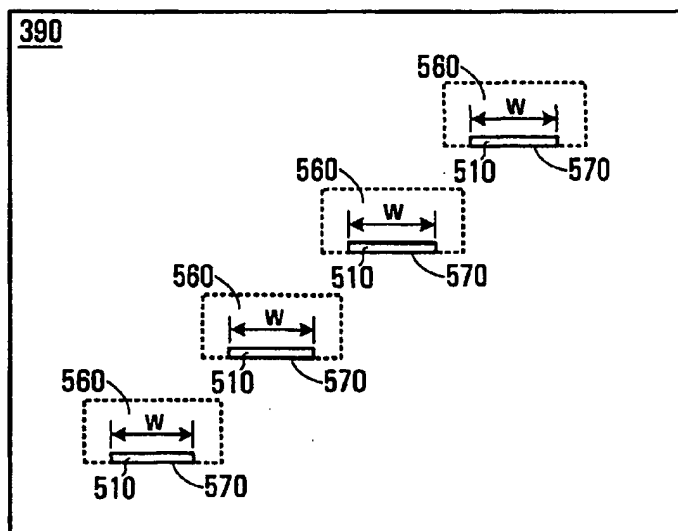
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(54) Title: PLANAR WAVEGUIDE GRATING DEVICES HAVING CONTROLLED POLARIZATION DEPENDENT SENSITIVITY AND METHOD OF MANUFACTURING THEREOF

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(57) Abstract: Diffraction gratings are formed from grooves each having a reflective facet and a non-reflective facet. The net reflection of TE (Transverse Electric) and TM (Transverse Magnetic) polarizations from the grating structure is traded off against the polarization dependent reflection, by controlling the degree of metallization of the reflective facet and by ensuring that there is no metallization of non-reflective sidewalls. other diffraction gratings are manufactured from trenches etched perpendicular to a waveguide. The trenches are metallized and back-filled with a filling material having a refractive index matched to that of the waveguide. The gratings essentially have no non-reflecting sidewalls with insignificant polarization influence from side walls.



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